

# GREEN RIVER FLOOD CONTROL ZONE DISTRICT



Boeing Setback Levee: Before Construction

## 2000 ANNUAL REPORT



During Construction



During Construction

September  
2001



**Green River Basin Program**  
Serving Auburn, Kent, Renton, Tukwila and King County



After Construction

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## INTRODUCTION AND BACKGROUND

The purpose of this annual report is to provide an accounting of 2000 Green River Flood Control Zone District (District) financial and work program activity. An annual reporting of District revenues and expenditures is required per Section 2.1.4 of the Green River Basin Program Interlocal Agreement (ILA), adopted June 30, 1992 by King County and the Green River Valley cities of Auburn, Kent, Renton and Tukwila. The report also provides a summary of the major repairs made to the District's flood protection facilities on the Green River in 2000.

In 1978, King County and the Green River Valley cities signed an interlocal agreement to form the Green River Basin Program (GRBP), an interjurisdictional flood control and drainage program for the lower Green River Basin. The 1992 ILA supports the continuation of the Green River Basin Program and has a ten-year duration. The GRBP formulates and recommends the annual work program and budget for the District.

Prior to 1991, the Green River Basin Program was funded by a cost-share arrangement between King County and the Green River cities. The Green River Basin Program is now funded by the District.

## GREEN RIVER FLOOD CONTROL ZONE DISTRICT

The Green River Flood Control Zone District was formed in 1966 and activated in December 1990. The purpose of the District is to provide a funding base for operation and maintenance of levees, revetments and pump stations on the Green River within the District's boundaries, and to fund administration of the Green River Basin Program.

The District encompasses areas within seven cities, five Metropolitan King County Council Districts, four State legislative districts, three Congressional districts and portions of unincorporated King County. It approximates the drainage basin of the lower Green River Valley, contains some 44,000 acres, and has a total assessed valuation in 2001 of \$15.86 billion. A map of the District is shown on page 4 of this report.

In accordance with state law regarding special purpose districts, the Green River Flood Control Zone District is a quasi-municipal corporation, legally separate from King County. However, the Metropolitan King County Council serves as the District's Board of Supervisors.



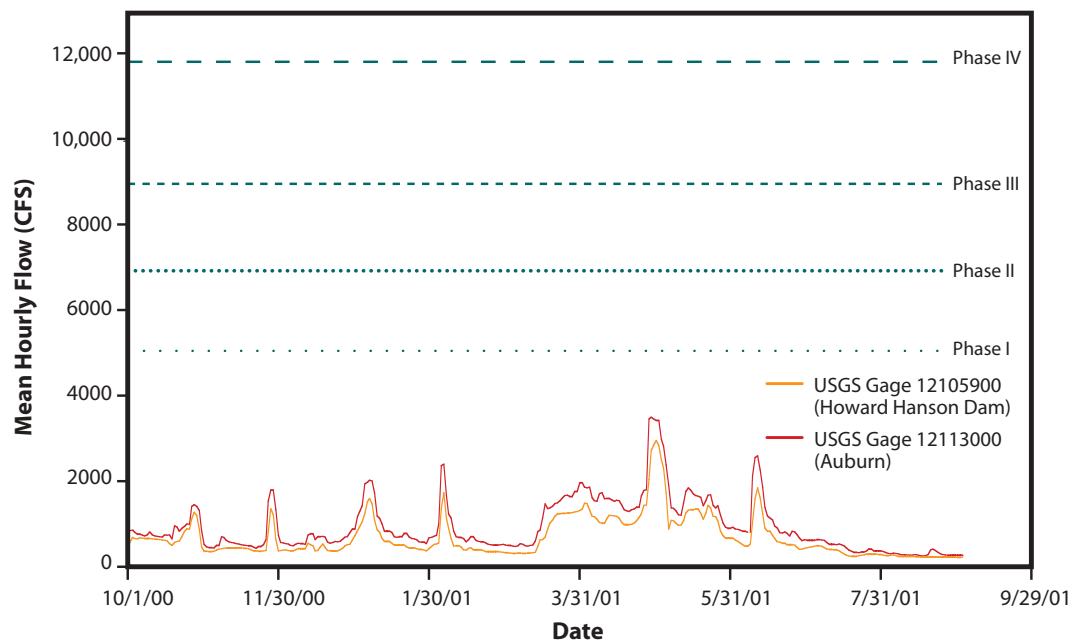


## Flood Summary for Water Year 2001 (10/1/00-9/4/01)

The Green River experienced another mild year for flood events, largely due to the lack of precipitation as a result the continued moderating effects on Northwest weather from La Nina. With more normal years experiencing an average of two to three flood events per season and Phase III flood events on average occurring once every two years, the 2000-2001 flood season was not a typical year.

As indicated on the flow graph below, the Green River failed to reach Phase I flood thresholds of 5,000 cubic feet per second (CFS) during the entire 2001 water year measured at the Auburn gage. The high water event on the Green River occurred during April 30, 2001 through May 4<sup>th</sup>, 2001 when the Auburn gage measured flows between 3,430 and 3,510 CFS. The majority of flow in the Green River is contributed from the upper watershed as a controlled release from the Howard Hanson reservoir.

**GREEN RIVER MEAN HOURLY FLOW RATES FOR WATER YEAR 2001  
Howard Hanson Dam and Auburn Gages**



Green River Near Auburn (USGS #12113000): At river mile 32.0, 1.8 miles downstream from Big Soos Creek. Drainage area is approximately 399 square miles.

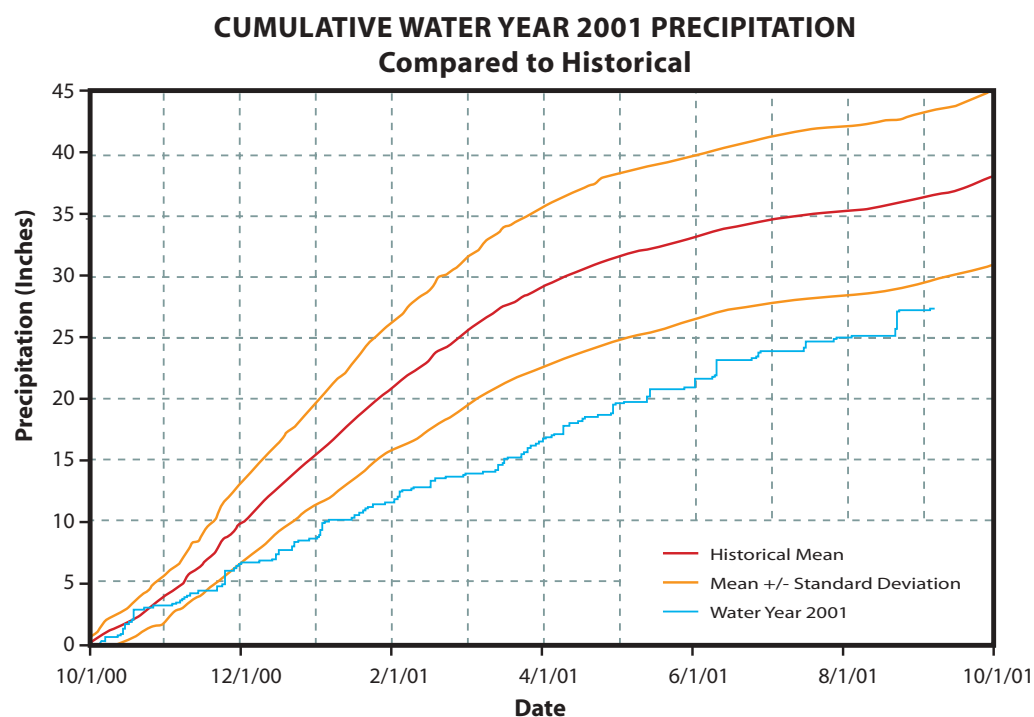
Green River Below Howard Hanson Dam (USGS #12105900): Located .7 miles downstream from Howard Hanson Dam with a contributing drainage area of approximately 221 square miles. Flows at this site as a result are regulated by the operations of Howard Hanson Dam.



## 2001 Water Year Precipitation Totals

The Green River watershed, as well as other regions throughout the Northwest, continue to experience drier-than-normal conditions during the 2001 water year. When rainfall is less than normal for several weeks, months, or years, the flow of streams and rivers declines, and the water levels in lakes and reservoirs fall.

Below is the accumulated precipitation at Seatac beginning October 1, 2000 through September 4, 2001 for the current 2001 water year. In addition to precipitation accumulation totals are the historical daily mean and the standard deviations of the daily mean per calendar day for the water year (October 1 – September 30). As the graph indicates, precipitation for the 2001 water year is expected to be 20-25% below the historical daily mean.

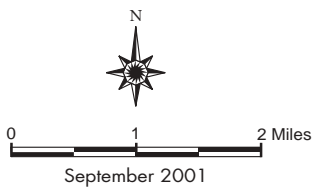


# Map 1 GREEN RIVER FLOOD CONTROL ZONE DISTRICT

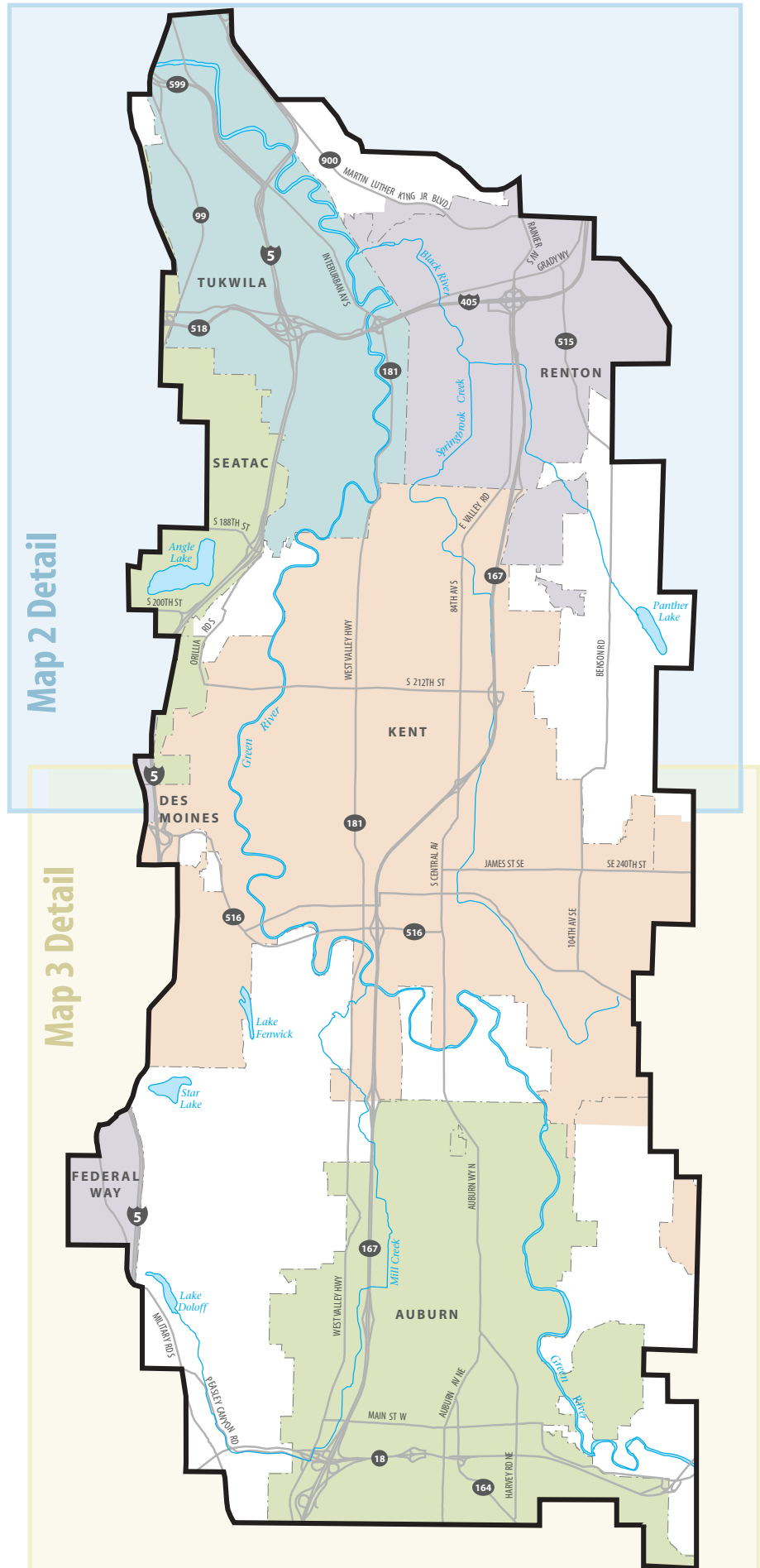


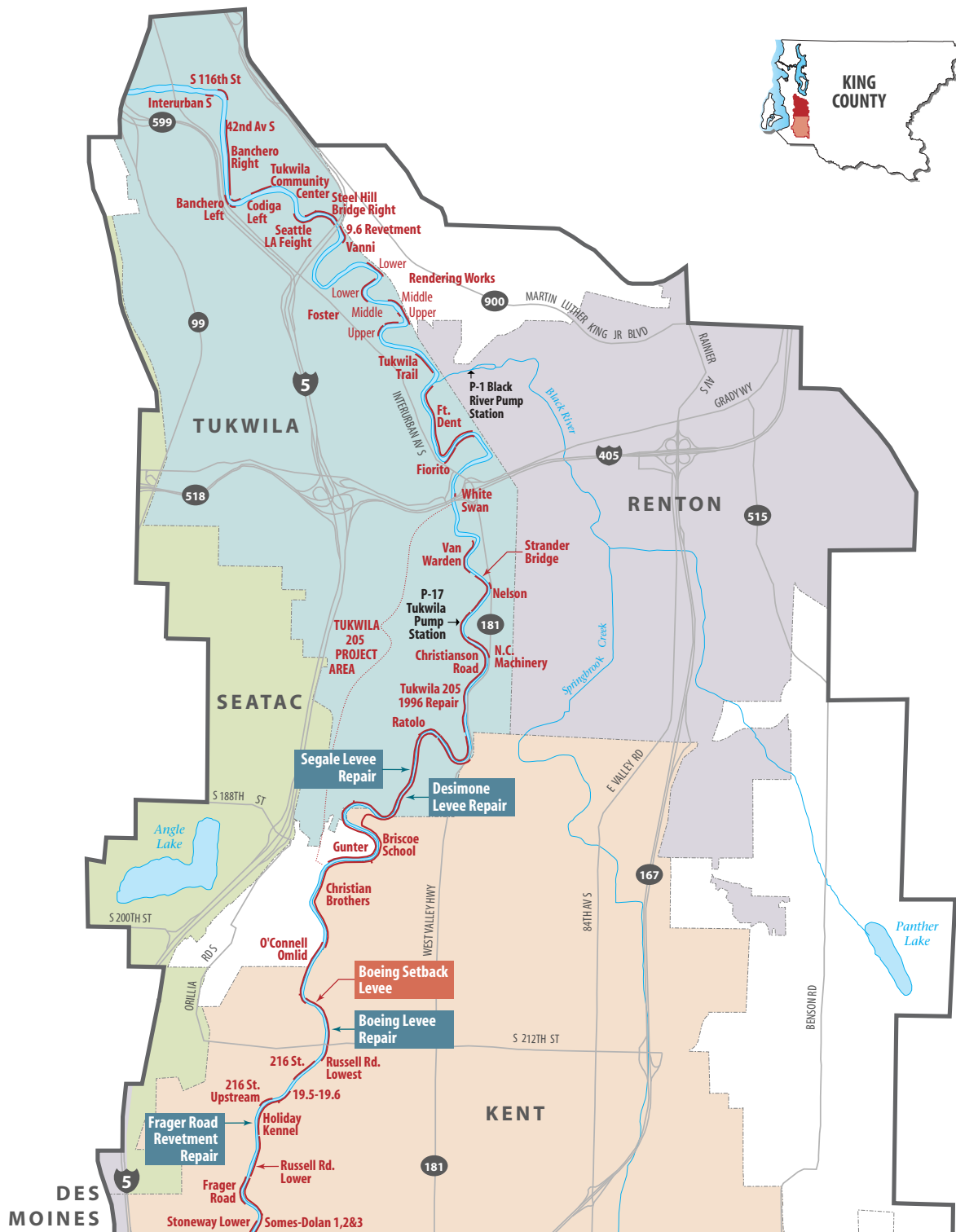
Map 2 Detail

Map 3 Detail



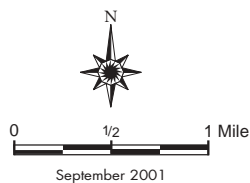
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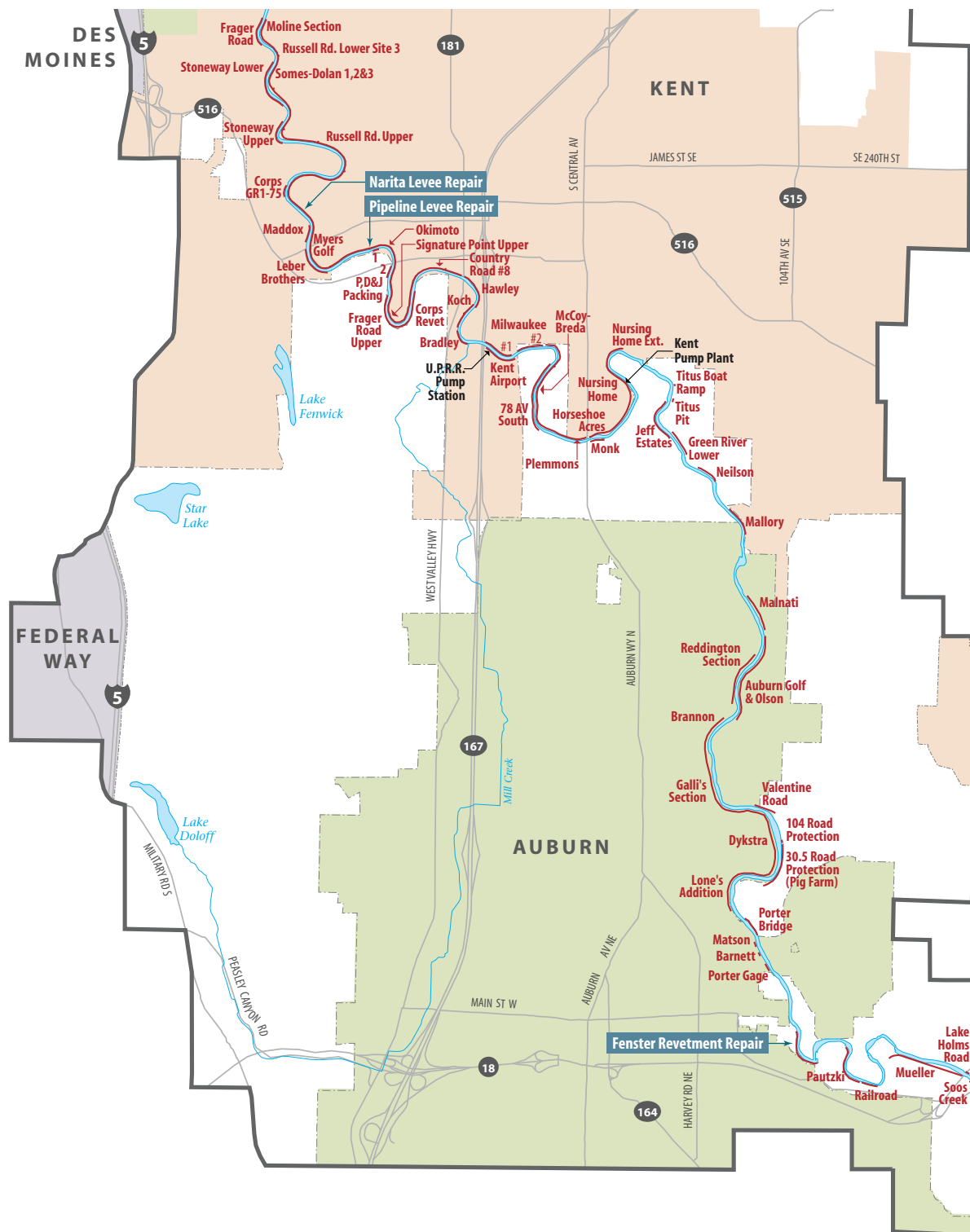


**Map 2**  
**GREEN RIVER FLOOD CONTROL ZONE DISTRICT**  
**North Portion**

- Name** Proposed Lower Green River Biological Assessment Projects
- Name** 2000 Boeing Setback Levee Project
- Levee/Revetment
- Lake/River
- Stream
- Major Road



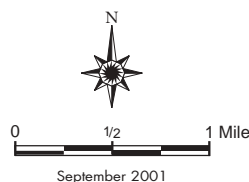
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**Map 3**  
**GREEN RIVER FLOOD CONTROL ZONE DISTRICT**  
**South Portion**



- |             |   |
|-------------|---|
| <b>Name</b> | Proposed Lower Green River Biological Assessment Projects |
|             | Levee/Revetment   |
|             | Lake/River  |
|             | Stream  |
|             | Major Road  |



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## 2000 ACCOMPLISHMENTS

Green River Flood Control Zone District and Green River Basin Program work program accomplishments included:

- Completed Boeing Setback Levee project at a total cost of \$534,459 leveraged with \$67,000 in grant funds from the Department of Ecology's Flood Control Assistance Account Program in addition to project support from the City of Kent in the amount of \$19,005.
- Implementation of the Flood Response Manual and Post-Flood Recovery Plan, including enhanced coordination with the Green River cities to share flow information during flood events and participation in preliminary and formal flood damage assessments. Included organization of the annual Interagency Flood Preparedness meeting for the Green River.
- Continued preparation of the Lower Green River Biological Assessment for Endangered Species Act Section 7 review with the U.S. Army Corps of Engineers, National Marine Fisheries Service and U.S. Fish and Wildlife Service for seven proposed 2002–2004 levee and revetment projects. Included ongoing cooperation with King County's Endangered Species Act Policy Office and the Biological Review Panel in their evaluation of these projects.
- Completion of annual Green River maintenance assessments and development of a priority maintenance project list with involvement of the Basin Technical Committee.
- Produced Annual Reports for the Section 205 Tukwila and Horseshoe Bend projects of the U.S. Army Corps of Engineers' Section 205 Program.
- Conducted vegetation management at selected facility sites to maintain their eligibility for the U.S. Army Corps of Engineers' PL84-99 emergency repair cost sharing program, including the Tukwila and Horseshoe Bend Section 205 projects.
- Developed and initiated a monitoring and assessment program of completed and proposed major maintenance projects per the requirements of local, State and Federal permits. The monitoring program provides baseline and post-construction data for project performance analysis and fish habitat utilization at project sites.
- Tracked results from smolt counter at the Black River Pump Plant station in cooperation with the cities of Kent and Renton, and the Muckelshoot Indian Tribe.
- Ongoing development, monitoring, and tracking of the budget and work program for the Green River Flood Control Zone District and Green River Basin Program.
- Ongoing coordination of Basin Technical Committee and Basin Executive Committee meetings and schedule.
- Provided administrative and technical assistance to the WRIA 9 Steering Committee and Project Committee.
- Ongoing participation and coordination with WRIA 9 salmon conservation planning efforts, activities and meetings, and representation of Green River flood management issues in this process.





- Participation and project development coordination with the U.S. Army Corps of Engineers' for the Green/Duwamish Ecosystem Restoration Study.
- Provided ongoing daily operations and maintenance at the Black River, Tukwila and Southcenter pump plants.
- Continued participation on an interagency Levee Vegetation Management Committee which was established to pursue a regional variance from the U.S. Army Corps of Engineers for PL84-99 standards for levee vegetation.
- Continued coordinating response to November 1995 and February 1996 Presidential declared flood disasters.
- Worked with King County's Office of Emergency Management to track project final project costs and provide documentation for federal flood disaster fund reimbursement. Included ongoing coordination efforts for the Pipeline Damage Survey Report appeal of cost overruns of the project.

## 2000 BUDGET

### AUTHORIZED 2000 BUDGET

The 2000 Green River Flood Control Zone District budget was approved in Resolution GR23, adopted by the Metropolitan King County Council on November 29, 1999. The Metropolitan King County Council serves as the District's Board of Supervisors.

The District's authorized budget was based on Basin Executive Committee's recommendations adopted at their October 14, 1999 meeting based on \$748,620 in estimated District property tax levy revenues. Together with \$380,000 authorized to supplement river facility repairs and programmatic assignments from the District's undesignated fund balance, the total District budget authorized for 2000 was \$1,128,620.

Per the resolution, the District's budget was structured into the following categories:

### APPROVED 2000 BUDGET

District Administration:	\$ 242,092
District Maintenance:	
• Pump Plants	\$ 215,554
• River Facility Repair Projects	\$ 157,050
• Annual Routine Maintenance	\$ 83,624
Contribution to Designated Fund Balance:	
• Local Flood Match Funds	\$ 11,000
• Pump Plant Equipment Repair/Replacement	\$ 39,300
<b>Sub-total of Approved 2000 Expenditures:</b>	<b>\$748,620</b>
River Facility Repair Projects -	
Transfer From Undesignated Fund Balance	\$ 380,000
<b>TOTAL:</b>	<b>\$1,128,620</b>

The District's 2000 work program was developed in excess of the budget to allow for additional expenditures that would leverage State matching funds for the Boeing Setback Levee project. Specifically, \$67,000 in State funds were contributed to the Boeing Setback Levee project as well as an additional \$19,005 by the City of Kent.

### Ad Valorem Tax Levy

This District is funded by an ad valorem tax levy on all properties within its boundaries. The District levy rate in 2000 was 0.05205 cents per \$1,000 of assessed property valuation. Therefore, for example, the owner of a \$200,000 home in the District paid approximately \$10.41 to the District levy, a decrease of \$0.01 from 1999. The 2000 levy was held to Implicit Price Deflator (IPD) levels.





Actual 2000 District collections totaled \$743,384. The difference between projected and actual collections is due to various factors which affect general property tax collections (e.g., assessed property value fluctuations, delinquencies, new construction, and ad valorem tax refunds).

For a full accounting and description of the District's actual expenditures, revenues, and year-end 2000 fund balance total, see the 2000 Year-End Revenue and Expenditure Report and the 2000 Year-End Fund Balance sections of this report.

## 2000 MAJOR MAINTENANCE PROJECT

Because of the significant scale and the timely opportunity to complete the project, the Boeing Setback Levee project was the sole major maintenance project for 2000 at a cost of \$534,459 in FY2000 (additional information on the Boeing Setback Levee project can be found on the following pages). The District's major maintenance was also significantly reduced over the previous five years as damaged facilities eligible for federal and state disaster relief funds have been repaired. The funds for completion of the project were contributed by the GRFCZD, the Washington State Department of Ecology's Flood Control Assistance Account Program, and the City of Kent.

SOURCE OF CONTRIBUTION	AMOUNT CONTRIBUTED
Green River Flood Control Zone District	\$ 448,454
Washington State Department of Ecology's Flood Control Assistance Account Program	\$ 67,000 *
City of Kent	\$ 19,005
<b>TOTAL PROJECT COSTS:</b>	<b>\$ 534,459</b>

\*An additional \$83,050 in supplemental funds were awarded to the Green River Flood Control Zone District by Washington State Department of Ecology's Flood Control Assistance Account Program in 2001. These funds will be realized as revenue in 2001 and reflected in the 2001 Annual Report. Therefore, the total grant funds received by the District from the Department of Ecology was \$150,050.





Russell Road, which historically served as the levee along this reach of the riverbank, was chronically subject to erosion of the road embankment due to its placement immediately adjacent to the river bank. This roadway was permanently abandoned by the City of Kent, and was replaced by setback levee placement and recreational trail construction.



Paving was removed from the old roadway for recycling as trail subgrade material. The old roadway fill prism was excavated and used as fill for construction of the new setback levee.



Additional fill was placed in compacted lifts throughout the 4,000 foot long setback levee reach. The new levee structure was located along the landward edge of a 200 foot wide riverfront open space parcel deed to Kent by the Boeing Company.

## **Boeing Setback Levee Project** **River Mile: 17.1–18.0, Right Bank** **Cost: \$ 534,459**

The entire Boeing Setback Levee project reach included approximately 4,000 feet of setback levee construction along the old Russell Road right-of-way between South 200<sup>th</sup> Street and South 212<sup>th</sup> Street within the City of Kent. The setback levee project, completed between last August through mid-November, tied into earlier setback levee repair projects accomplished at the Christian Brother Levee at the downstream end of this work in 1998. The upstream end of the Boeing Setback Levee ties into the raised road grade along South 212<sup>th</sup> Street.

The previous grade of Russell Road South adjoining the river in this reach was excavated following abandonment of this surface roadway by the City of Kent, and the fill materials and recycled asphalt pavement from the old road grade was used in construction of the new, setback levee fill prism. The new levee structure was placed along the landward edge of an 18.5 acre strip of land 200 feet in width, which was dedicated to the City of Kent by the Boeing Company earlier in the year. The new setback levee crest was raised to meet federal standards for flood containment and levee freeboard. A 25-foot strip of land along the landward edge of the new, setback levee was brought to final grade and planted with a landscaping buffer by the Boeing Company. The crest of the new levee alignment was paved with a new ten-foot wide multi-purpose recreational trail.

This project builds on past effort to minimize flood damage in this reach. Specifically, in 1989 the City of Kent stabilized both banks of the river just downstream of the South 212<sup>th</sup> Street bridge abutments. In 1991, the City of Kent and the Green River Flood Control Zone District cooperated in repairing a slumping portion of the riverbank. In 1996 and 1997, similar slumps posing a threat to the stability of Russell Road were repaired. Then in 1998, approximately 600 feet of eroding riverbank



was stabilized with setback levee construction at the downstream terminus of the project in the Christian Brothers reach. However, an additional slump is presently unrepaired in this reach but is included in the Lower Green River Biological Assessment for future riverbank repairs in this reach that will include toe buttress reconstruction, instream habitat log placement, and additional planting of native riparian vegetation. In all, the levee structure throughout this reach is vastly more stable and secure against ongoing flooding than the original structure that it replaced.

## **BENEFITS OF THE PROJECT:**

**Increased flood conveyance and protection** by relocating tens of thousands of cubic yards of existing raised fill of a 4,000-foot long section of the Boeing Levee, which served as the roadbed for the Russell Road South, at a location 200-feet landward of the footprint of the existing levee prism structure. To further enhance the facility's flood protection capacity, the new structure will be constructed with a more gradual and stable angle of repose. This facility was constructed on a strip of land 200-feet wide and 4,000-feet long that was conveyed by the Boeing Company to the City of Kent and will tie into the Christian Brothers Revetment setback constructed in 1998 at the downstream end of the present project site.

**Added recreational benefit** by the permanent abandonment of Russell Road South by the City of Kent and replacement with a new 4,000-foot long, 12-foot wide asphalt recreational trail with two-foot wide gravel shoulders that will be sited on the reconstructed levee crest.

**Increased and added environmental benefit** by reversing a longstanding adverse impact on riparian and riverine habitat through setting back the levee 200-feet from the river. Additionally, an



The new setback levee fill was brought to grade for flood containment, and a newly paved section of the Green River Trail was constructed throughout the length of the project.



The sides of the levee were layered with stockpiled native soils for plantings, and to create more gentle slopes adjacent to the trail. Additional fill shown here along the landward side of the levee is for placement of landscaping improvements by the Boeing Company.



The finished levee slopes were graded smooth and seeded with erosion control grasses prior to the onset of winter rains. The recreational trail was opened for use following completion.



expanded wildlife habitat area was created by replanting of a 25-foot wide and 4,000-foot long strip of land along the landward (eastern) edge of the conveyed land with a landscaping buffer by the Boeing Company.

**Diminished future project repairs** at this site by setting back this facility and creating a more stable angle of repose to minimize slumping of the riverbank into the river.

**Sets the stage for future cooperative fish and wildlife habitat restoration projects** at this site to more fully restore riparian and instream habitat could involve resloping the bank of the Green River to a more natural slope angle, excavating additional flood storage and off-channel habitat areas, and planting tens of thousands of native trees and shrubs to restore a riparian forest, and adding large woody debris along the bankline as fish habitat.

**Positive environmental impact** through reuse and/or recycling 14,000 cubic yards of earthen material, 7,900 cubic yards of roadbed fill, 1,400 cubic yards of asphalt paving material, and 4,900 cubic yards of sod and topsoil.

## MAINTENANCE HISTORY OF DISTRICT SINCE 1990

The completion of the Boeing Setback Levee project represents the 38<sup>th</sup> maintenance project completed by the Green River Flood Control Zone District since 1990. Projects completed by the District have included a variety of designs such as in-water bank stabilization repairs, additions of large woody debris, out-of-water levee setbacks and lay-backs, and facility retrofits.

Past designs that emphasized significant amounts of rock rip-rap on the face of the facilities were replaced in the early 1990s with design and construction using biostabilization methods that include soil, native vegetation, and large woody debris to enhance fish and wildlife habitat, reduce local stream velocities and increase the structural integrity of these projects. To date, the District alone has incorporated 507 pieces of large woody debris in the biostabilization projects.

The total cost to complete the 38 projects was \$5,637,046. The District successfully leveraged \$4,038,118 – or 71.6% – in Federal, State and/or local disaster relief and grant funds to support the costs to complete these projects. Therefore, the cost to the District to complete these projects was \$1,598,928, or 28.4%.

The following table lists the project name, construction year, bank, river mile, total project costs, the District's share of the project costs, and the amount of non-District funds for the 38 complete maintenance projects:





## TEN YEAR MAJOR MAINTENANCE PROJECT LIST

Project Name	Year	Bank	River Mile	Total Project Cost	GRFCZD Project Costs	Non-GRFCZD Project Costs
78th Avenue South	1991	R	25.5	\$ 9,828	\$ 3,188	\$ 6,640
Boeing (RM 18.74)	1991	R	18.74	\$ 165,000	\$ 20,625	\$ 144,375
NC Machinery/Liston	1991	R	14.7	\$ 22,760	\$ 2,845	\$ 19,915
Nursing Home	1991	R	26.6	\$ 23,373	\$ 13,607	\$ 9,766
Segale Landward	1991	L	15.5	\$ 125,000	\$ 62,500	\$ 62,500
Christiansen Trail	1992	L	13.5	\$ 52,449	\$ 23,602	\$ 28,847
Lone's 3rd Addition	1992	L	30.8	\$ 55,238	\$ 6,905	\$ 48,333
Brannon	1993	L	30.3	\$ 5,894	\$ 5,894	\$ -
Okimoto	1993	R	23.3	\$ 136,145	\$ -	\$ 136,145
Dykstra/Lone's Addition	1994	L	30.7	\$ 130,039	\$ 32,510	\$ 97,529
Plemmons U/S	1994	L	25.4	\$ 82,507	\$ 20,627	\$ 61,880
Segale Riverward Levee	1995	L	15.5	\$ 741,635	\$ 185,409	\$ 556,226
42nd Avenue South	1996	R	7.6	\$ 466,001	\$ 129,478	\$ 336,523
Boeing (RM 17.80)	1996	R	17.8	\$ 115,872	\$ 14,484	\$ 101,388
Home Depot (Tuk. 205)	1996	L	14.42	\$ 242,435	\$ 27,435	\$ 215,000
McCoy Breda	1996	R	24.7	\$ 373,820	\$ 80,000	\$ 293,820
Nursing Home	1996	R	25.7	\$ 83,502	\$ 22,972	\$ 60,530
Plemmons	1996	R	25.3	\$ 81,532	\$ 20,383	\$ 61,149
Segale Landward Levee	1996	L	15.5	\$ 426,689	\$ 53,336	\$ 373,353
Signature Point Lower	1996	R	22.3	\$ 174,661	\$ 25,060	\$ 149,601
Russell Road Lowest	1997	R	18.1	\$ 213,386	\$ 28,068	\$ 185,318
Segale Landward Levee	1997	L	15.5	\$ 1,186,614	\$ 148,327	\$ 1,038,287
Signature Point Upper	1997	R	22.3	\$ 332,127	\$ 51,648	\$ 280,479
Strander Bridge Tree	1997	N/A	13.2	\$ 10,549	\$ -	\$ 10,549
Boeing (RM 17.62)	1998	R	17.62	\$ 104,946	\$ 38,748	\$ 66,198
Christian Brothers	1998	R	17.15	\$ 247,846	\$ 40,601	\$ 207,245
Desimone	1998	R	15.45	\$ 442,435	\$ 48,935	\$ 393,500
Russell Road Lower	1998	R	19.1	\$ 273,653	\$ 41,965	\$ 231,688
Russell Road Upper	1998	R	20.4	\$ 236,572	\$ 35,705	\$ 200,867
Christian Bros.-LWD Adj.	1999	R	17.15	\$ 15,341	\$ -	\$ 15,341
Desimone	1999	R	14.45	\$ 309,608	\$ 136,684	\$ 172,924
Narita	1999	R	22.0	\$ 150,539	\$ 80,121	\$ 70,418
Pipeline	1999	R	22.0	\$ 354,922	\$ 248,384	\$ 106,538
Russell Rd. Low.-LWD Adj.	1999	R	19.1	\$ 20,660	\$ 20,660	\$ -
Russell Rd. Up.-LWD Adj.	1999	R	20.4	\$ 12,513	\$ -	\$ 12,513
Boeing Setback Levee	2000	R	17.5	\$ 534,459	\$ 395,405	\$ 139,054
<b>TOTAL COST OF 36 PROJECTS:</b>				<b>\$7,960,550</b>	<b>\$2,066,111</b>	<b>\$5,894,439</b>



## 2000 YEAR-END REVENUE AND EXPENDITURE REPORT

### 1999 YEAR END FUND BALANCE

The District's 2000 Budget started with a fund balance as of December 31, 1999 in the amount of \$892,301, as reported in the District's 1999 Annual Report. Of this amount, \$396,030 was set-aside in a designated fund balance allotment for pump station repairs and equipment replacement (\$309,423) and the balance as a source of matching funds to leverage potential future state and federal assistance for flood damage repairs (\$86,607). The remaining \$496,271 of fund balance was undesignated.

### ACTUAL 2000 REVENUE

The total District revenue for administration and maintenance activities in 2000 totaled \$898,460. This included \$743,384 in actual levy revenue – \$5,236 less than projected in the adopted 2000 budget; \$69,071 in interest income from the designated and undesignated fund balance; \$67,000 in Washington State Department of Ecology grant funds; and \$19,005 in City of Kent contribution funds for completion of the Boeing Setback Levee project.

#### SOURCE OF REVENUE

2000 Actual Levy Revenue:	\$ 743,384
Interest Income from Designated and Undesignated Fund Balance:	\$ 69,071
Washington State Department of Ecology Grant Funds:	\$ 67,000
City of Kent:	\$ 19,005
<b>TOTAL DISTRICT REVENUE:</b>	<b>\$ 898,460</b>







## ACTUAL 2000 EXPENDITURES AND CHARGES

The combined District administration and maintenance expenditures during 2000 totaled \$1,065,173. These expenditures and charges are divided into two separate budget categories: (1) administration, which includes program/District management, and designated and undesignated fund balance contributions; and (2) maintenance, which includes pump plant operations and maintenance, major river facility repairs, annual routine maintenance, and preparation of the Lower Green River Biological Assessment. During 2000, \$311,914 was spent on administration activities and \$753,259 on maintenance. These actual expenditures are further detailed below:

### ACTUAL 2000 EXPENDITURES

<b>Administration:</b>	
Program/District Management:	\$ 192,543
Contribution to the Designated Fund Balance:	
• Local Flood Match Funds	\$ 11,000
• Pump Plant Equipment Repair/Replacement	\$ 39,300
Interest Income-	
Contribution to the Undesignated Fund Balance:	\$ 69,071
<b>Administration Sub-total:</b>	<b>\$ 311,914</b>
<b>Maintenance:</b>	
Pump Plant Operation and Maintenance:	\$ 133,083
Major River Facility Repair Projects-Net	
Costs to GRFCZD:	\$ 534,459
Annual Routine Maintenance:	\$ 71,455
Lower Green River Biological	
Assessment Preparation:	\$ 100,267
<b>Maintenance Sub-total:</b>	<b>\$ 839,264</b>
<b>TOTAL PROGRAM EXPENDITURES:</b>	<b>\$ 1,151,178</b>

## DISTRICT PROGRAM ADMINISTRATION

Program and District administrative expenditures in 2000 supported two full-time staff positions. In addition, the administration budget provided support to all District activities including: coordination of major and annual routine maintenance related work for various projects (e.g., site investigations, survey, engineering design, permit applications and coordination, oversight of construction crews and equipment, overall project management); federal and state disaster assistance coordination (e.g., Damage Survey Reports for federal flood disaster projects); grant applications and management (e.g., Washington State Department of Ecology Flood Control Assistance Account Program); annual budget development, analysis and tracking; preparation of annual resolutions; technical assistance to lower Green River Valley cities and other resource agencies such as the U.S. Army Corps of Engineers, the Soil Conservation Service, and the United States Geological Survey; preparation of District's 1999 Annual Report; participation and coordination with other Green/Duwamish (WRIA 9) Watershed activities; and ongoing coordination of Basin Technical Committee and Basin Executive Committee meetings.

### ADMINISTRATIVE EXPENDITURES

Salaries:	\$ 71,565
Benefits:	\$ 33,336
Materials and Supplies:	\$ 2,260
Contract Services, Permits:	\$ 1,940
King County Services:	\$ 110
WLRD Overhead:	\$ 83,332
Transfer to Undesignated Fund Balance:	\$ 69,071
Transfer to Designated Fund Balance:	\$ 50,300
<b>TOTAL:</b>	<b>\$ 311,914</b>

### DISTRICT MAINTENANCE

The District's maintenance budget includes all costs for the maintenance and operations of the Black River (P-1), Tukwila (P-17) and Southcenter/Segale pump plants; major river facility repairs and projects; and the annual routine maintenance program. Also, because of the direct association to the District's major maintenance projects, the expenditures for the preparation of the Lower Green River Biological Assessment are also included in the District Maintenance category.

### SUMMARY OF ALL DISTRICT MAINTENANCE EXPENDITURES

Pump Plant Operations and Maintenance:	\$ 133,083
River Facility Repair Project (Major Maintenance):	\$ 534,459
Annual Routine Maintenance Program:	\$ 71,455
Preparation of Lower Green River Biological Assessment	\$ 100,267
<b>TOTAL:</b>	<b>\$ 839,264</b>





### Pump Plant Operations and Maintenance

The pump plant expenditures in 2000 includes one full-time pump plant operator to oversee all the operations and maintenance of the Black River, Tukwila and Southcenter/Segale pump plants. In addition to the routine operations and maintenance, the pump plant operator carries out many other activities, including:

- overseeing the seasonal in-migration of anadromous and resident cutthroat trout and steelhead normally between mid-September and January 31<sup>st</sup>;
- overseeing the seasonal downstream out-migration passage from early April to mid-June of anadromous and resident cutthroat trout and steelhead;
- coordination of migration data with the Cities of Renton and Kent, and the Muckelshoot Indian Tribe;
- grounds and property maintenance; and
- coordination of annual inspections with the City of Renton's Fire Prevention Bureau and the Occupational Safety and Hazard Administration (OSHA) inspections at the Black River pump plant.

#### PUMP PLANT OPERATIONS AND MAINTENANCE EXPENDITURES

Salaries:	\$ 48,740
Benefits:	\$ 20,954
Utilities:	\$ 48,818
Materials and Supplies:	\$ 4,160
Contract Services, Permits:	\$ 5,268
King County Services:	\$ 5,119
DOT Overhead:	\$ 24
<b>TOTAL:</b>	<b>\$ 133,083</b>

## Major Maintenance Projects

For the District's major facility repair maintenance projects, the expenditures include all labor and the associated benefits and overhead charges, materials, supplies and equipment for the completion of the Boeing Setback Levee project (see pages \_\_\_\_ for more information). Because of the significant amount of material excavated and hauled during this project, the equipment expenditures represented a significant percentage of the project's costs (see Contract Services and King County Services in the table below). As noted in the description of the project on pages \_\_\_\_, \$150,050 in grant funds from the Washington State Department of Ecology were received to complete this project. However, \$83,050 of the \$150,050 were supplemental grants funds awarded in 2001 and therefore will be realized as revenue in the 2001 budget.

### MAJOR MAINTENANCE PROJECT EXPENDITURES

Salaries:	\$ 141,388
Benefits:	\$ 61,684
Materials and Supplies:	\$ 143,865
Contract Services (e.g., rental equipment), Permits:	\$ 120,552
King County Services (King County equipment):	\$ 59,460
DOT Overhead:	\$ 7,510
<b>TOTAL:</b>	<b>\$ 534,459</b>
Less State and City of Kent Supporting Funds:	\$ (86,005)
<b>ACTUAL (NET) COST TO DISTRICT:</b>	<b>\$ 448,454</b>

## Annual Routine Maintenance Program

The District's annual routine maintenance program includes non-native vegetation removal and mowing of District facilities including the Tukwila and Horseshoe Bend Section 205 projects as required under the U.S. Army Corps of Engineers' Section 205 Program; noxious weed removal as required to carry out the mandates of state weed control law under Chapter 17.10 RCW; maintenance of access roads to the District's facilities; interpretive sign placement; small repairs and maintenance projects to flap gates and culverts; and watering of native vegetation planted following the 1998 and 1999 major maintenance projects.

### ANNUAL ROUTINE MAINTENANCE PROGRAM EXPENDITURES

Salaries:	\$ 17,419
Benefits:	\$ 8,764
Materials and Supplies:	\$ 8,317
Contract Services, Permits:	\$ 33,892
King County Services:	\$ 2,118
DOT Overhead:	\$ 945
<b>TOTAL:</b>	<b>\$ 71,455</b>







**Lower Green River Biological Assessment and Monitoring Program**

The District’s 2000 maintenance expenditures also highlights the costs to complete the Lower Green River Biological Assessment as well as the costs to develop and initiate a monitoring and assessment program for proposed and completed major maintenance projects. The costs include all the labor and associated benefits and overhead charges of a senior ecologist, engineer, and AutoCAD specialist to complete the assessment.

The Lower Green River Biological Assessment was completed to review the effects of seven proposed levee and revetment repair projects on stocks of lower Green River chinook and coho salmon, bull trout, and bald eagles. The Biological Assessment was prepared in accordance with Section 7(c) of the Endangered Species Act of 1973 to determine whether federally listed or proposed threatened or endangered species and/or candidate species in the project’s “action area” could be affected by construction of these projects.

Specifically, Section 7(a) of the Endangered Species Act requires federal agencies to conserve endangered and threatened species. Section 8(a) (2) requires consultations to ensure that any action authorized, funded or carried out by a federal agency is not likely to jeopardize the continued existence of listed, proposed or candidate species or result in the destruction or adverse modification of critical habitat for such species. This includes actions by the Federal Emergency Management Agency, which funds repairs to flood damaged facilities; the U.S. Department of Housing and Urban Development, which funds community development block grants that may be applied to the modification of flood control facilities; and the U.S. Army Corps of Engineers, which permits flood control facility repairs in waters of the United States under the Section 404 program of the Clean Water Act. Section 7(c) of the ESA requires that a Biological Assessment be prepared for construction projects if any of those species or their critical habitats are present in the proposed action area of such projects.

The following seven projects are proposed for construction in the Lower Green River Biological Assessment:

LOWER GREEN RIVER LEVEE AND REVETMENT REPAIRS				
Facility Name	Facility Type	Location (River Mile)	Bank	Lineal Feet
Segale	Levee	15.4	L	190
Desimone	Levee	15.4-15.6	R	1,300
Boeing	Levee	17.8	R	130
Frager Road	Revetment	18.5	L	175
Narita	Levee	21.2	R	550
Pipeline	Hybrid	21.9	R	500
Fenster	Hybrid	32.0	L	220
TOTAL LINEAL FEET				3,065



The Lower Green River Biological Assessment was transmitted to the U.S. Army Corps of Engineers, the federal action agency for these seven proposed projects, in early 2001. Due to the backlog of Biological Assessments pending review and formal consultation at the U.S. Army Corps of Engineers, the Lower Green River Biological Assessment could not be processed in time to construct any of the seven project projects in 2001. However, the processing of the Lower Green River Biological Assessment will be completed in time for the 2002 construction season; all seven of these seven projects proposed for construction will likely take three years to construct.

The development and initiation of the monitoring and assessment program was done primarily for two reasons: 1) to further comply with codified requirements of local, State and Federal permits, specifically the Washington State Hydrologic Project Approval; and 2) to comply with the listing as threatened of Puget Sound chinook by the National Marine Fisheries Service in March 1999 and the listing as threatened of bull trout by the U.S. Fish and Wildlife Service in April 2000.

The purpose of the monitoring program is to provide baseline and post-construction data for project performance analysis and fish habitat utilization at project sites so that the District can continue to adequately balance flood protection and further enhance the natural health of the Green River and its tributaries. Baseline data of the seven proposed projects in the Lower Green River Biological Assessment was collected in 2000 and used in its preparation. Data collected at previously construction District projects was also used in the Lower Green River Biological Assessment to exhibit and demonstrate utilization by salmonids at these sites. Moreover, the data collected will be used during the future development of additional Biological Assessment for major maintenance projects in the lower Green River.

#### **BIOLOGICAL ASSESSMENT & MONITORING PROGRAM EXPENSES**

Salaries:	\$ 42,783
Benefits:	\$ 19,331
Materials and Supplies:	\$ -
Contract Services, Permits:	\$ -
King County Services:	\$ -
WLRD Overhead:	\$ 38,153
<b>TOTAL:</b>	<b>\$ 100,267</b>





## 2000 YEAR-END FUND BALANCE

As authorized in the District’s 2000 budget and work program, \$380,000 of the undesignated fund balance was authorized for transfer to use towards construction of major river facility repair projects. However, due to savings in other programs areas and an increase in interest income, only \$255,853 was required to be transferred from the undesignated fund balance. Therefore, the 2000 fund balance activity saw a net decrease in the amount of \$140,607.

### 2000 FUND BALANCE SUMMARY

<b>Designated Fund Balance as of 12/31/00:</b>	
Designated Flood Match Funds	\$ 97,607
Designated Pump Equipment Funds	\$ 348,723
<b>Undesignated Fund Balance as of 12/31/00:</b>	<b>\$ 305,364</b>
<b>TOTAL FUND BALANCE AS OF 12/31/00:</b>	
	<b>\$ 751,694</b>

### Designated Fund Balance

On July 19, 1993 the King County Council, acting as the Green River Flood Control Zone District’s Board of Supervisors, passed Resolution No. GR1993-2 to set aside, or “designate,” \$94,230 from the District’s undesignated fund balance for two specific purposes:

- 1) future use as local match for federal and state disaster assistance funding and grants following Presidential-declared flood disaster events; and
- 2) repair, replacement and upgrades of equipment at the Green River pump plants.

Resolution No. GR1993-2 also established a process whereby \$50,300 in District funds are set aside annually: \$11,000 for local flood match and \$39,300 for pump plant equipment repair, replacement and upgrades. These designations were consistent with the recommendation approved by the Green River Basin Executive Committee on November 19, 1992 and are target figures based on annual District tax revenue collections.

Local flood match and pump plant repair designations to date total \$97,607 and \$348,723, respectively, for a combined total of \$446,330; the totals include the 2000 contributions. These designations are consistent with the Green River Basin Executive Committee and Basin Technical Committee recommendations in 1992 and Resolution No. GR1993-2, approved by the District’s Board of Supervisors on July 19, 1993.

At the right is a table of the designated fund balance activity since its inception in 1993:

### DESIGNATED FUND BALANCE ACTIVITY

Year	Flood Match	Equipment	Total	Running Total
1993	\$ 20,607	\$ 73,623	\$ 94,230	\$ 94,230
1994	\$ 11,000	\$ 39,300	\$ 50,300	\$ 144,530
1995	\$ 11,000	\$ 39,300	\$ 50,300	\$ 194,830
1996	\$ 11,000	\$ 39,300	\$ 50,300	\$ 245,130
1997	\$ 11,000	\$ 39,300	\$ 50,300	\$ 295,430
1998	\$ 11,000	\$ 39,300	\$ 50,300	\$ 345,730
1999	\$ 11,000	\$ 39,300	\$ 50,300	\$ 396,030
2000	\$ 11,000	\$ 39,300	\$ 50,300	\$ 446,330
<b>TOTAL</b>	<b>\$ 97,607</b>	<b>\$ 348,723</b>	<b>\$ 446,330</b>	

### Undesignated Fund Balance

Additional District fund balance revenues beyond the \$50,300 designated annually are to be used to supplement Green River maintenance activities. These funds and additional income such as that from interest or property sales are set aside in the undesignated fund balance for future District needs. As of December 31, 2000 \$305,364 was set aside in the undesignated fund balance.

Because of the outstanding maintenance needs in the District, the undesignated fund balance – as well as the designated fund balance for local flood match – provide an extremely important means of supplementing the District's limited ability to complete necessary repair projects using only the annual levy revenues. With the decrease in federal and state funds available for major river repair projects, the fund balance will enable – albeit on a limited basis – to continue to address a backlog of existing facility damage; seven of these projects are proposed for construction in the Lower Green River Biological Assessment. The fund balance also provides additional flexibility to respond to future flood events and new programs and requirements imposed upon the District's work program, such as the additional requirements imposed as a result of the listing of Puget Sound chinook and bull trout under the Endangered Species Act.

As shown in the table below, the District's total designated and undesignated fund balance at the end of 2000 is \$751,694. As stated above, \$446,330 of this total has been designated for local flood match and pump plant purposes since 1993. This leaves the balance of \$305,364 as undesignated fund balance. However, \$125,000 of the undesignated fund balance will be used to supplement the 2001 maintenance budget and therefore leaving an estimated balance of \$180,364 at the end of the 2001 fiscal year.

### 2000 FUND BALANCE SUMMARY

<b>Designated Fund Balance as of 12/31/00:</b>	
Designated Flood Match Funds	\$ 97,607
Designated Pump Equipment Funds	\$ 348,723
<b>Undesignated Fund Balance as of 12/31/00:</b>	<b>\$ 305,364</b>
<b>TOTAL FUND BALANCE AS OF 12/31/00:</b>	
	<b>\$ 751,694</b>





## 2001 BUDGET

The 2001 Green River Flood Control Zone District budget was approved by the District's Board of Supervisors (Metropolitan King County Council) on December 15, 2000 by Resolution No. GR26. The levy rate for 2001 is 0.04998, or \$0.04998 per \$1,000 of assessed value; a property assessed at \$200,000 would pay approximately \$10.00 per year, an estimated annual reduction of \$0.41 per year from 2000.

Based on this levy rate, 2001 collection are expected to total \$783,007. Consistent with the requirements of RCW 86.15.140 and as indicated on Resolution No. GR26, the District's budget is categorized as follows:

### 2001 BUDGET

Overhead and Administration:	\$ 274,463
Pump Plant Operations and Maintenance:	\$ 221,424
River Facility Repairs and Annual Maintenance:	\$ 236,820
Undesignated Fund Balance Reserve:	\$ 0
Designated Fund Balance Reserve:	
• Local Flood Match Funds:	\$ 11,000
• Pump Plant Repair and Maintenance Funds:	\$ 39,300
Undesignated Fund Balance Contribution:	\$ 125,000
<b>2001 APPROVED BUDGET</b>	<b>\$ 908,007</b>

As shown above, the District's budget authorized by Resolution No. GR26 specifies how projected revenue from the District levy will be disbursed. This resolution also specified that \$125,000 of the District's undesignated fund balance would be transferred to supplement the District's 2001 budget for river facility repairs.



## 2001 GOALS

The 2001 goals for the Green River Flood Control Zone District and the Green River Basin Program include the following:

- Construct high priority river facility repairs and other river repair projects, and continue the annual routine maintenance program.
- Provide operation and maintenance to the Green River pump plants to ensure optimal operating conditions. Continue in-migration and out-migration monitoring at Black River pump plant.
- Continue monitoring and evaluation of river facilities unrepaired following the November 1995 and February 1996 Presidential-declared flood events, including the seven projects proposed for construction in the Lower Green River Biological Assessment.
- Oversee and facilitate the Section 7 Endangered Species Act review of the seven projects proposed for construction between 2002–2004 in the Lower Green River Biological Assessment. Pursue concurrence from the National Marine Fisheries Service and U.S. Fish and Wildlife Service as needed.
- Staff 2001 Flood Patrols and complete River Facility Damage Assessments as needed during flood events and other disaster related events. Continue implementation of the Post-Flood Recovery Plan and Flood Response Manual.
- Apply for 2001-2003 Washington State Department of Ecology Flood Control Assistance Account Program grant funds for completion of high priority river facility repair projects.
- Support the U.S. Army Corps of Engineers' Green-Duwamish Ecosystem Restoration Study and Project efforts for proposed project affecting District's facilities as well as other identified needs.
- Continue participation in the Interagency Levee Vegetation Management Committee.
- Completion of the annual reports for the Tukwila and Horseshoe Bend 205 Projects for the U.S. Army Corps of Engineers.
- Coordination of District activities with other WRIA 9 projects and programs, and staff associated WRIA 9 committees as necessary.
- Continuation of the monitoring and assessment program initiated in 2000 to provide greater baseline and post-construction data at proposed and completed project sites.
- Completion of the preliminary financing alternatives analysis (bonding report) as directed by the Basin Executive Committee at the annual meeting in October 2000.







- Completion and execution of the interlocal agreement for the Green River Basin Program.
- Ongoing coordination of the Basin Technical Committee and Basin Executive Committee meetings.
- Completion of the District's 2000 Annual Report.
- Continue communication with the recreational river users on lower Green River projects and programs that may affect recreation.
- Support King County Rivers Section's on the composition of the updated Flood Hazard Reduction Plan, implementation of King County's Community Rating System, development of a six-year Capital Improvement Plan, and other projects and programs as needed.

## **GREEN RIVER BASIN PROGRAM BASIN EXECUTIVE COMMITTEE**

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